LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

IWM Consulting Group
7428 Rockville Road
Indianapolis, IN 46214
ATTN: Brad Gentry

October 16, 2018

SUBJECT: Former Amphenol Facility, Data Validation

Dear Mr. Gentry,

Enclosed is the final validation report for the fraction listed below. This SDG was received on September 8, 2018. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #43299B:

SDG #	**Fraction:**
10450037	Volatiles

The data validation was performed under Level III & IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Residential Vapor Intrusion Investigation Work Plan for Priority Residences, Franklin Power Products, Inc./Amphenol Corporation, Franklin, Indiana; September 2018
- USEPA National Functional Guidelines for Organic Superfund Methods Data Review; January 2017

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

3,961 pages-DL ASAP

Attachment 1

90/10

LDC #43299 (IWM Consulting Group - Indianapolis, IN / Former Amphenol Facility)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (TO-15-S)		VOA (TO-15)																													
Matrix:	Air/Water/Soil			A	S	A	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	10449789	10/08/18	ASAP	13	0	13	0																												
A	10449789	10/08/18	ASAP	3	0	3	0																												
B	10450037	10/08/18	ASAP	14	0	14	0																												
Total	T/PG			30	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60

Shaded cells indicate Level IV validation (all other cells are Level III validation). These counts do not include MS, MSD, Dups.

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LDC Report# 43299B48

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Former Amphenol Facility

LDC Report Date: October 11, 2018

Parameters: Volatiles

Validation Level: Level III

Laboratory: Pace Analytical Services, LLC.

Sample Delivery Group (SDG): 10450037

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SGe-8	10450037001	Air	10/01/18
SGe-10	10450037003	Air	10/01/18
SGe-19	10450037005	Air	10/02/18
SGe-18	10450037007	Air	10/02/18
SGe-2	10450037009	Air	10/02/18
SGe-3	10450037011	Air	10/02/18
FD-2	10450037013	Air	10/02/18
SGe-1	10450037015	Air	10/02/18
SGe-5	10450037017	Air	10/02/18
SGe-6	10450037019	Air	10/02/18
SGe-4	10450037021	Air	10/02/18
SGe-13	10450037023	Air	10/02/18
SGbm-5	10450037025	Air	10/02/18
SGe-20	10450037027	Air	10/02/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Vapor Intrusion Investigation – Exterior Soil Gas Sampling Work Plan, Franklin Power Products, Inc./Amphenol Corporation, Franklin, Indiana (August 2018) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method TO-15 and EPA Method TO-15 in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound for analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

The canisters were properly pressurized and handled.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 24 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 30.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister. No contaminants were found in the canister blanks.

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Surrogates

Surrogates were not required by the method.

VIII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples SGe-3 and FD-2 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/m³)		RPD
	SGe-3	FD-2	
Methylene chloride	24.4	12.0	68
Tetrachloroethene	2.6	1.4	60
1,1,1-Trichloroethane	0.20	0.10U	Not calculable
Trichloroethene	0.63	0.85	30

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level III validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level III validation.

XIV. System Performance

Raw data were not reviewed for Level III validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Former Amphenol Facility
Volatiles - Data Qualification Summary - SDG 10450037

No Sample Data Qualified in this SDG

Former Amphenol Facility
Volatiles - Laboratory Blank Data Qualification Summary - SDG 10450037

No Sample Data Qualified in this SDG

Former Amphenol Facility
Volatiles - Field Blank Data Qualification Summary - SDG 10450037

No Sample Data Qualified in this SDG

Pace Analytical Services, LLC
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(612)607-1700

ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGe-8 **Lab ID: 10450037001** Collected: 10/01/18 16:49 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
1,1-Dichloroethane	**0.45**	ug/m3	0.078	1.9		10/04/18 03:45	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.078	1.9		10/04/18 03:45	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	0.077	1.9		10/04/18 03:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.077	1.9		10/04/18 03:45	156-60-5	
Methylene Chloride	**28.4**	ug/m3	6.7	1.9		10/04/18 03:45	75-09-2	
Tetrachloroethene	**16300**	ug/m3	209	304		10/04/18 11:51	127-18-4	
1,1,1-Trichloroethane	**462**	ug/m3	337	304		10/04/18 11:51	71-55-6	
Trichloroethene	**1100**	ug/m3	166	304		10/04/18 11:51	79-01-6	
Vinyl chloride	ND	ug/m3	0.049	1.9		10/04/18 03:45	75-01-4	

11/01/18

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGe-10 **Lab ID: 10450037003** Collected: 10/01/18 16:27 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
1,1-Dichloroethane	ND	ug/m3	0.078	1.9		10/04/18 04:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.078	1.9		10/04/18 04:13	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	0.077	1.9		10/04/18 04:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.077	1.9		10/04/18 04:13	156-60-5	
Methylene Chloride	**42.1**	ug/m3	6.7	1.9		10/04/18 04:13	75-09-2	
Tetrachloroethene	**19300**	ug/m3	209	304		10/04/18 11:21	127-18-4	
1,1,1-Trichloroethane	**1170**	ug/m3	337	304		10/04/18 11:21	71-55-6	
Trichloroethene	**3540**	ug/m3	166	304		10/04/18 11:21	79-01-6	
Vinyl chloride	ND	ug/m3	0.049	1.9		10/04/18 04:13	75-01-4	

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ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGe-19 **Lab ID: 10450037005** Collected: 10/02/18 09:56 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
1,1-Dichloroethane	ND	ug/m3	0.077	1.87		10/04/18 04:40	75-34-3	
1,2-Dichloroethane	**0.38**	ug/m3	0.077	1.87		10/04/18 04:40	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	0.075	1.87		10/04/18 04:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.075	1.87		10/04/18 04:40	156-60-5	
Methylene Chloride	**23.0**	ug/m3	6.6	1.87		10/04/18 04:40	75-09-2	
Tetrachloroethene	**4.3**	ug/m3	0.18	2.54		10/04/18 12:44	127-18-4	
1,1,1-Trichloroethane	**5.4**	ug/m3	0.10	1.87		10/04/18 04:40	71-55-6	
Trichloroethene	**6.5**	ug/m3	0.10	1.87		10/04/18 04:40	79-01-6	
Vinyl chloride	ND	ug/m3	0.049	1.87		10/04/18 04:40	75-01-4	

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ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGe-18 **Lab ID: 10450037007** Collected: 10/02/18 10:34 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
1,1-Dichloroethane	ND	ug/m3	0.073	1.77		10/04/18 05:08	75-34-3	
1,2-Dichloroethane	**0.074**	ug/m3	0.073	1.77		10/04/18 05:08	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	0.071	1.77		10/04/18 05:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.071	1.77		10/04/18 05:08	156-60-5	
Methylene Chloride	**17.6**	ug/m3	6.2	1.77		10/04/18 05:08	75-09-2	
Tetrachloroethene	**0.77**	ug/m3	0.17	2.41		10/04/18 12:16	127-18-4	
1,1,1-Trichloroethane	**0.73**	ug/m3	0.098	1.77		10/04/18 05:08	71-55-6	
Trichloroethene	**0.15**	ug/m3	0.097	1.77		10/04/18 05:08	79-01-6	
Vinyl chloride	ND	ug/m3	0.046	1.77		10/04/18 05:08	75-01-4	

10/01/18

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ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGe-2 **Lab ID: 10450037009** Collected: 10/02/18 11:14 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
1,1-Dichloroethane	ND	ug/m3	0.077	1.87		10/04/18 05:36	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.077	1.87		10/04/18 05:36	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	0.075	1.87		10/04/18 05:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.075	1.87		10/04/18 05:36	156-60-5	
Methylene Chloride	**20.2**	ug/m3	6.6	1.87		10/04/18 05:36	75-09-2	
Tetrachloroethene	**1.3**	ug/m3	0.13	1.87		10/04/18 05:36	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.10	1.87		10/04/18 05:36	71-55-6	
Trichloroethene	**0.28**	ug/m3	0.10	1.87		10/04/18 05:36	79-01-6	
Vinyl chloride	ND	ug/m3	0.049	1.87		10/04/18 05:36	75-01-4	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGe-3 **Lab ID: 10450037011** Collected: 10/02/18 11:48 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
1,1-Dichloroethane	ND	ug/m3	0.077	1.87		10/04/18 06:03	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.077	1.87		10/04/18 06:03	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	0.075	1.87		10/04/18 06:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.075	1.87		10/04/18 06:03	156-60-5	
Methylene Chloride	**24.4**	ug/m3	6.6	1.87		10/04/18 06:03	75-09-2	
Tetrachloroethene	**2.6**	ug/m3	0.13	1.87		10/04/18 06:03	127-18-4	
1,1,1-Trichloroethane	**0.20**	ug/m3	0.10	1.87		10/04/18 06:03	71-55-6	
Trichloroethene	**0.63**	ug/m3	0.10	1.87		10/04/18 06:03	79-01-6	
Vinyl chloride	ND	ug/m3	0.049	1.87		10/04/18 06:03	75-01-4	

10/12/18

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: FD-2 **Lab ID: 10450037013** Collected: 10/02/18 11:48 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
1,1-Dichloroethane	ND	ug/m3	0.077	1.87		10/04/18 06:31	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.077	1.87		10/04/18 06:31	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	0.075	1.87		10/04/18 06:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.075	1.87		10/04/18 06:31	156-60-5	
Methylene Chloride	**12.0**	ug/m3	6.6	1.87		10/04/18 06:31	75-09-2	
Tetrachloroethene	**1.4**	ug/m3	0.13	1.87		10/04/18 06:31	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.10	1.87		10/04/18 06:31	71-55-6	
Trichloroethene	**0.85**	ug/m3	0.10	1.87		10/04/18 06:31	79-01-6	
Vinyl chloride	ND	ug/m3	0.049	1.87		10/04/18 06:31	75-01-4	

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ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGe-1 **Lab ID: 10450037015** Collected: 10/02/18 12:25 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
1,1-Dichloroethane	ND	ug/m3	0.075	1.83		10/04/18 06:59	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.075	1.83		10/04/18 06:59	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	0.074	1.83		10/04/18 06:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.074	1.83		10/04/18 06:59	156-60-5	
Methylene Chloride	**20.0**	ug/m3	6.5	1.83		10/04/18 06:59	75-09-2	
Tetrachloroethene	**105**	ug/m3	0.13	1.83		10/04/18 06:59	127-18-4	
1,1,1-Trichloroethane	**334**	ug/m3	0.10	1.83		10/04/18 06:59	71-55-6	
Trichloroethene	**16.4**	ug/m3	0.10	1.83		10/04/18 06:59	79-01-6	
Vinyl chloride	ND	ug/m3	0.048	1.83		10/04/18 06:59	75-01-4	

8/01/18

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGe-5 **Lab ID: 10450037017** Collected: 10/02/18 12:58 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
1,1-Dichloroethane	ND	ug/m3	0.075	1.83		10/04/18 07:26	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.075	1.83		10/04/18 07:26	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	0.074	1.83		10/04/18 07:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.074	1.83		10/04/18 07:26	156-60-5	
Methylene Chloride	**20.5**	ug/m3	6.5	1.83		10/04/18 07:26	75-09-2	
Tetrachloroethene	**11300**	ug/m3	101	146.4		10/04/18 10:52	127-18-4	
1,1,1-Trichloroethane	**178**	ug/m3	0.10	1.83		10/04/18 07:26	71-55-6	
Trichloroethene	**67.4**	ug/m3	0.10	1.83		10/04/18 07:26	79-01-6	
Vinyl chloride	ND	ug/m3	0.048	1.83		10/04/18 07:26	75-01-4	

RL 10/2/18

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGe-6 **Lab ID: 10450037019** Collected: 10/02/18 13:23 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
1,1-Dichloroethane	ND	ug/m3	0.077	1.87		10/04/18 07:54	75-34-3	
1,2-Dichloroethane	**0.60**	ug/m3	0.077	1.87		10/04/18 07:54	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	0.075	1.87		10/04/18 07:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.075	1.87		10/04/18 07:54	156-60-5	
Methylene Chloride	**21.6**	ug/m3	6.6	1.87		10/04/18 07:54	75-09-2	
Tetrachloroethene	**37.6**	ug/m3	0.13	1.87		10/04/18 07:54	127-18-4	
1,1,1-Trichloroethane	**8.6**	ug/m3	0.10	1.87		10/04/18 07:54	71-55-6	
Trichloroethene	**3.6**	ug/m3	0.10	1.87		10/04/18 07:54	79-01-6	
Vinyl chloride	ND	ug/m3	0.049	1.87		10/04/18 07:54	75-01-4	

RL 10/2/18

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ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGe-4 **Lab ID: 10450037021** Collected: 10/02/18 13:47 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
1,1-Dichloroethane	ND	ug/m3	1.6	1.94		10/04/18 03:33	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.80	1.94		10/04/18 03:33	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	1.6	1.94		10/04/18 03:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.6	1.94		10/04/18 03:33	156-60-5	
Methylene Chloride	**16.6**	ug/m3	6.8	1.94		10/04/18 03:33	75-09-2	
Tetrachloroethene	**20500**	ug/m3	428	620.8		10/04/18 11:30	127-18-4	
1,1,1-Trichloroethane	**211**	ug/m3	2.2	1.94		10/04/18 03:33	71-55-6	
Trichloroethene	**257**	ug/m3	1.1	1.94		10/04/18 03:33	79-01-6	
Vinyl chloride	ND	ug/m3	0.50	1.94		10/04/18 03:33	75-01-4	

8 10/2/18

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGe-13 **Lab ID: 10450037023** Collected: 10/02/18 14:18 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
1,1-Dichloroethane	ND	ug/m3	1.6	1.94		10/04/18 04:04	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.80	1.94		10/04/18 04:04	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	1.6	1.94		10/04/18 04:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.6	1.94		10/04/18 04:04	156-60-5	
Methylene Chloride	**14.2**	ug/m3	6.8	1.94		10/04/18 04:04	75-09-2	
Tetrachloroethene	**5.0**	ug/m3	2.0	2.87		10/04/18 10:33	127-18-4	
1,1,1-Trichloroethane	**320**	ug/m3	2.2	1.94		10/04/18 04:04	71-55-6	
Trichloroethene	**296**	ug/m3	1.1	1.94		10/04/18 04:04	79-01-6	
Vinyl chloride	ND	ug/m3	0.50	1.94		10/04/18 04:04	75-01-4	

8/01/18

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGbm-5 **Lab ID: 10450037025** Collected: 10/02/18 14:43 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
1,1-Dichloroethane	**4.6**	ug/m3	1.6	1.98		10/04/18 04:34	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.81	1.98		10/04/18 04:34	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	1.6	1.98		10/04/18 04:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.6	1.98		10/04/18 04:34	156-60-5	
Methylene Chloride	**21.5**	ug/m3	7.0	1.98		10/04/18 04:34	75-09-2	
Tetrachloroethene	**5.1**	ug/m3	1.4	1.98		10/04/18 04:34	127-18-4	C8
1,1,1-Trichloroethane	**401**	ug/m3	66.8	60.19		10/04/18 11:02	71-55-6	
Trichloroethene	**288**	ug/m3	1.1	1.98		10/04/18 04:34	79-01-6	
Vinyl chloride	ND	ug/m3	0.51	1.98		10/04/18 04:34	75-01-4	

8 10/2/18

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: IN.AMP18.01 Former Amphenol
Pace Project No.: 10450037

Sample: SGe-20 **Lab ID: 10450037027** Collected: 10/02/18 15:09 Received: 10/03/18 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
1,1-Dichloroethane	ND	ug/m3	0.12	3.01		10/04/18 13:39	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.12	3.01		10/04/18 13:39	107-06-2	
cis-1,2-Dichloroethene	ND	ug/m3	0.12	3.01		10/04/18 13:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.12	3.01		10/04/18 13:39	156-60-5	
Methylene Chloride	**28.3**	ug/m3	10.6	3.01		10/04/18 13:39	75-09-2	
Tetrachloroethene	**5.3**	ug/m3	0.21	3.01		10/04/18 13:39	127-18-4	
1,1,1-Trichloroethane	**3.1**	ug/m3	0.17	3.01		10/04/18 13:39	71-55-6	
Trichloroethene	**0.30**	ug/m3	0.16	3.01		10/04/18 13:39	79-01-6	
Vinyl chloride	ND	ug/m3	0.078	3.01		10/04/18 13:39	75-01-4	

10/10/18

REPORT OF LABORATORY ANALYSIS

LDC #: 43299B48 **VALIDATION COMPLETENESS WORKSHEET** Date: 10/16/18
SDG #: 10450037 Level III Page: 1 of 2
Laboratory: Pace Analytical Services, LLC Reviewer: SW
2nd Reviewer: A

METHOD: GC/MS Volatiles (EPA Method TO-15-SIM/Full Scan)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	ICAL ≤ 30% r² ICV ≤ 30%
IV.	Continuing calibration	A	CCV ≤ 30%
V.	Laboratory Blanks/Canister Blanks (per Sample)	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D = 6/7
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Leak Check Compounds	N	
XVI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1 2	SGe-8	10450037001	Air	10/01/18
2 2	SGe-10	10450037003	Air	10/01/18
3 2	SGe-19	10450037005	Air	10/02/18
4 2	SGe-18	10450037007	Air	10/02/18
5 2	SGe-2	10450037009	Air	10/02/18
6 2	SGe-3 D	10450037011	Air	10/02/18
7 2	FD-2 D	10450037013	Air	10/02/18
8 2	SGe-1	10450037015	Air	10/02/18
9 2	SGe-5	10450037017	Air	10/02/18
10 2	SGe-6	10450037019	Air	10/02/18
11 1	SGe-4	10450037021	Air	10/02/18
12 1	SGe-13	10450037023	Air	10/02/18

LDC #: 43299B48 **VALIDATION COMPLETENESS WORKSHEET** Date: 10/10/18
SDG #: 10450037 Level III Page: 2 of 2
Laboratory: Pace Analytical Services, LLC Reviewer: AM
2nd Reviewer: A

METHOD: GC/MS Volatiles (EPA Method TO-15-SIM Scan)

	Client ID	Lab ID	Matrix	Date
13 1	SGbm-5	10450037025	Air	10/02/18
14 3	Sge-20	10450037027	Air	10/02/18
15				
16				
17				
18				
19				

Notes:

1	MB 3076189	(	Full	)			
2	3077417						
3	3078138						

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 43299B48

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVG
2nd reviewer: M

METHOD: GC/MS VOA (EPA Method TO15 Full Scan/TO15-SIM)

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target compounds identified in the field duplicate pairs?

Compound	Concentration (ug/m3)		RPD
	6	7	
E	24.4	12.0	68
AA	2.6	1.4	60
N	0.20	0.10U	NC
S	0.63	085	~~197~~ 30

V:\Josephine\FIELD DUPLICATES\43299B48 ivm amphenol.wpd